MONITORING WELL INSTALLATION
WORK PLAN
MARYLAND SQUARE SHOPPING CENTER
3661 SOUTH MARYLAND PARKWAY
LAS VEGAS, NEVADA

Facility ID: H-000086

FOR AL PHILLIPS THE CLEANER

URS Corporation
Job No. 26698724
September 24, 2007

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1 INTRODUCTION

At the request of Al Phillips the Cleaners, Inc. (Al Phillips), URS Corporation (URS) prepared this Work Plan (WP) for environmental site characterization activities at the former Al Phillips facility located at Maryland Square Shopping Center in Las Vegas, Nevada. This WP is to further assess the downgradient extent of the dissolved tetrachloroethene (PCE) impact to groundwater as requested by the Nevada Division of Environmental Protection (NDEP) of Al Phillips. This work plan presents a brief summary of site background information, the project objectives, the planned scope of work, investigation methods, quality control measures, and reporting requirements for completion of the investigation.

1.1 SITE LOCATION

The project site is located at 3661 South Maryland Parkway, Las Vegas, Nevada (Figure 1). The site is situated on the east side of South Maryland Parkway, north of East Twain Avenue.

1.2 SUMMARY OF SELECTED INVESTIGATIONS

Prior to URS site investigations, Converse Consultants (Converse) performed several subsurface assessments and groundwater sampling at the former Al Phillips facility from August 2000 through March 2004. Converse's findings indicated that PCE was detected in soil beneath the former facility and in groundwater adjacent to, and downgradient from, the facility.

Six new groundwater monitoring wells were installed by URS in March 2005. These wells are MW-17, MW-18, MW-22, MW-23, MW-24, and MW-25. Well MW-17 is located in the parking area east of the building formerly occupied by Al Phillips. Monitoring wells MW-18, MW-22, MW-23, MW-24, and MW-25 were installed in the residential area downgradient (east) of the Boulevard Mall and Al Phillips. Two additional groundwater monitoring wells were installed by URS in March 2006. These wells are MW-26 and MW-27. Well MW-26 is located downgradient (east) of well MW-25 on Seneca Lane. Well MW-27 is located downgradient (east) of well MW-26 on Ottawa Circle.

1.3 PROJECT PURPOSE

The purpose of the scope of work presented in this WP is to evaluate and further characterize groundwater impact in the residential area downgradient of the site to better define the perimeter of

the dissolved PCE plume. The scope of work will be accomplished by performing the following tasks:

- Install and sample three new permanent groundwater monitoring wells and one temporary well
- Evaluate the groundwater gradient and flow direction at the east end of the plume
- Evaluate the downgradient extent of PCE impact to groundwater based on the additional groundwater analysis
- Initiate semi-annual groundwater monitoring for the three new wells
- Survey the elevations of the three new wells
- Report findings of the additional groundwater assessment.

1.4 TOPOGRAPHY, GEOLOGY, AND HYDROGEOLOGY

The site is located near the center of the Las Vegas Valley sedimentary basin. Based on installation of groundwater wells in the vicinity of the site, the general stratigraphy within the study area includes hard fine sandy silts, fine sand, silty sands and gravels, and one or more layers of firm to hard caliche. Based on June 2007 groundwater measurements in shallow monitoring wells within the study area, the depth to groundwater beneath the study area varies based on the local topography and subsurface conditions and ranges from approximately 12.5 to 27 feet below ground surface (bgs). Groundwater flow is generally toward the east at a gradient of approximately 0.045 feet (vertical) per-foot (horizontal). The groundwater elevation contours across the site area for the June 2007 groundwater monitoring event are shown in Figure 2.

2 RATIONALE AND SCOPE OF WORK

This section presents the rationale for placement and construction of three new permanent shallow depth (approximately 40 feet deep) groundwater monitor wells and one temporary well, collecting groundwater samples, and the methods for analyzing groundwater samples.

2.1 ANALYTES OF CONCERN

Based on the results of prior site investigations the contaminant of concern is PCE.

2.2 INSTALLATION AND DEVELOPMENT OF WELLS

Based on the prior investigation reports, the downgradient extent of shallow PCE-impacted groundwater appears to be fairly well defined with the exception of the perimeter of the most downgradient portion of the plume. Therefore, this scope of work includes drilling, installation, and development of three permanent groundwater monitoring wells and one temporary well north, south and east of monitoring well MW-27 to help define that extent of impact. Boreholes for the new offsite wells will be drilled using a hollow-stem auger drill rig. Based on prior groundwater data, the depth to groundwater in wells MW-25, MW-26, and MW-27 (Figure 2) is approximately 17.5 to 19 feet bgs. As such, well boreholes will be drilled to a depth of approximately 40 feet and well casing installed. Section 3.4 provides more details of groundwater monitoring well construction.

2.3 GROUNDWATER SAMPLING

One round of groundwater sampling from the new wells will be conducted under this scope of work. The permanent new wells will be sampled during future quarterly groundwater sampling events in accordance with the NDEP approved well sampling schedule and in conjunction with sampling of existing wells on and off site of the former Al Phillips facility.

2.4 GROUNDWATER ANALYSIS

Groundwater analysis of volatile organic compounds (VOCs) will be performed by U.S. Environmental Protection Agency (EPA) method 8260B. Additional water quality chemical analysis of samples from the proposed most downgradient well on Ottawa Drive will be performed for dissolved iron and manganese, chloride, nitrate and sulfate, alkalinity, and total organic carbon (TOC) so that ample water quality data is available for evaluation of potential future remediation activities.

3 FIELD METHODS AND PROCEDURES

URS personnel will perform the field scope of work following specific field methods and procedures. This section outlines the field equipment that will be used, discusses well installation, outlines the groundwater sampling procedures that will be followed, presents the field documentation that will be performed, and describes sample documentation and transport.

3.1 FIELD EQUIPMENT

Personnel responsible for implanting the field elements of the scope of work will have appropriate sampling materials, field screening equipment, and personal protective equipment onsite during the subsurface investigation. This shall include, but not be limited to:

PVC well casing	Slotted well screen
Bentonite pellets	Filter pack sand
Cement and bentonite for grouting	Drill rig
Traffic rated well vault	Well cap
Deionized water	Paper towels
Cooler and ice	Sealing plastic bags
Clear dedicated bailers	String
Sample containers	Borehole log forms
Water level, DO, and ORP meters	Chain-of-custody forms
pH, conductivity, and temperature meter	First aid kit
Telephone	Health and safety equipment

Water quality meters will be used to measure pH, conductivity, temperature, dissolved oxygen (DO), and oxidation-reduction potential (ORP) during well purging. The pH/conductivity meter will be calibrated using an auto calibration solution. The probe of the meter is immersed in the auto calibration solution and the mode on the instrument changed to auto calibration. The meter will calibrate itself and will be ready to use. URS field personnel will record the meter calibration. URS personnel will also use a DO and ORP meter during groundwater sampling. URS field personnel will record the meter calibration for these instruments.

3.2 ACCESS AGREEMENT

The locations of the proposed permanent monitoring wells are the east end cul-de-sac of Ottawa Drive, Ottawa Drive at the intersection of Ottawa Circle, and the west end cul-de-sac of Geronimo Way, which are Clark County rights-of-way. The temporary well is located at the intersection of Spencer Street and Cherokee Lane, which is also a Clark County right-of-way. URS will apply for an encroachment permit through the Clark County Development Services Department Civil

Engineering Division for occupancy of Clark County right-of-way.

3.3 UNDERGROUND UTILITY CLEARANCE

URS will survey and mark the proposed excavation site with white marking paint and Underground Service Alert (USA) will be notified 1 week prior to performing field activities. URS will wait the required 2 working days before confirming underground utility markings and will maintain facility markings for the duration of the job.

3.4 WELL INSTALLATION AND DEVELOPMENT

A hollow-stem auger rig will be utilized to drill the proposed boreholes for installation of a temporary groundwater monitoring well and three permanent groundwater monitoring wells, MW-28, MW-29, and MW-30. The approximate location of the proposed monitoring wells is shown on Figure 3. Based on June 2007 groundwater elevations (Figure 2), groundwater is approximately 17.5 to 19 feet bgs at well MW-25, MW-26, and MW-27. Therefore, the proposed wells will be drilled to a maximum depth of 40 feet.

The temporary monitoring well will be constructed of 1-inch diameter slotted and solid PVC casing. Solid casing will be from ground surface to 15 feet bgs, and slotted casing will be from 15 feet bgs to approximately 3 feet below the water level. The well casing will be inserted into the borehole with filter pack sand (Monterey #3 or equivalent) surrounding the slotted casing, up to 2 feet above the slotted casing. After groundwater samples are collected, the temporary well casing will be removed from the borehole; the borehole will be backfilled with 3 feet of hydrated bentonite, then backfilled to near ground surface using soil that has not been in contact with groundwater. A down-hole hammer will be used to compact soil in the borehole. The borehole will be capped with 2 feet of concrete that is flush with the ground surface.

The new permanent wells will be constructed of 4-inch diameter slotted and solid PVC casing. Solid casing will be from ground surface to 15 feet bgs, and slotted casing will be from 15 to 40 feet bgs with a slot size of 0.02-inches. Filter pack sand (Monterey #3 or equivalent) will be placed up to 3 feet above the slotted casing from 12 to 40 feet bgs. A 3-foot bentonite seal will be placed on top of the filter pack from 9 to 12 feet bgs, and cement/bentonite grout will be placed from near surface to 9 feet bgs. Well will be completed at the ground surface with a 12-inch-diameter traffic-rated well vault with locking cap for the well. Monitoring wells will be drilled by a Nevada licensed well driller and will be registered with the Nevada Division of Water resources in accordance with Nevada regulations. Handling and disposal of investigation-derived wastes (IDW) will be performed in accordance with regulations and are discussed in Section 3.13.

Monitoring well development will be conducted to remove well drilling fluids, solids, or other particulates which may have been introduced or deposited on the boring wall in a recently installed well during drilling and construction activities. Properly developed monitoring wells allow for the collection of groundwater samples that are chemically and physically representative of the aquifer of concern. Development will be performed by using a surge block and a submersible pump to remove a minimum of five well casing volumes of water. The development water will be collected in Department of Transportation (DOT) approved 55-gallon drums. Field personnel will label the drums and will include the date, well number, firm, and signature of the personnel. Drums containing development and decontamination water will be handled and disposed of in accordance with the methods discussed in Section 3.13.

3.5 WELL SURVEY

The elevations of the three permanent groundwater monitoring wells will be surveyed by a surveyor licensed in the State of Nevada in order to provide reference data for extension of the piezometric surface map further to the east. At a minimum, the elevation of the ground surface next to the protective casing will be surveyed to the nearest 0.10 foot, and the elevation of the measuring point on the well riser will be surveyed to the nearest 0.01 foot.

3.6 GROUNDWATER SAMPLING

Field water quality meters will be calibrated according to manufacturer's specifications and guidelines before use. A clean electronic water level sounder, accurate to the nearest +/- 0.01 feet, will be used to measure depth to water in each well. The electronic sounder will lowered down the well casing to the top of the water column. The graduated markings on the probe tape are used to measure the depth to water from the surveyed point on the rim of the well casing. Typically, the measuring device emits a constant tone when the probe is submerged in standing water and most electronic water level sounders have a visual indicator that turns on when the probe encounters water. Total well depths will be measured by lowering the weighted probe to the bottom of the well and recording the depth to the nearest 0.1 feet, adjusting for the distance from the tip of the probe to the reference point for the graduated measurement tape.

3.6.1 Temporary Well

Groundwater in the temporary groundwater monitoring well will be collected after the well has been in place for an hour. Three casing volumes of groundwater will be hand-bailed before collecting samples. Field water quality parameters will not be measured for this sample.

Purge water and decontamination water will be placed in DOT-approved 55-gallon drums. Field personnel will label the drums identifying them as well purge water and will include the date, well number, firm, and signature of the personnel. Drums containing sample purge water will be handled and disposed of in accordance with the methods discussed in Section 3.13

3.6.2 Permanent Wells

Groundwater samples will be collected using a low-flow method in accordance with American Society for Testing and Materials (ASTM) Method D6771-02 (ASTM, 2002). Monitor wells will be purged by this low-flow method prior to sampling. The pump will be decontaminated before and after use in each well. The purge rate will be varied to attain a stable water elevation. Water quality parameters will be monitored and recorded every 5 minutes during well purging to evaluate when stable values have been attained. Stable pH, specific conductance (SC), DO, ORP and water level measurements indicate a representative groundwater sample is obtainable. Water quality is considered stable if for three consecutive readings the pH varies by no more than 0.2 pH units, the SC and DO readings are within 10 percent of the average value, ORP readings are within 10 millivolts, and the water level remains unchanged. In general, a minimum of 8 liters of water will be purged from well prior to sampling. Experience with this purge method in the Las Vegas Valley has shown that these monitoring parameters can stabilize by the time this volume is purged.

If water quality parameters are not stable after three casing volumes have been removed, an entry will be noted in the logbook, and groundwater samples will be collected. The depth to water, water quality measurements, and purge volumes will be entered in the purge log. If a well dewaters during purging and three casing volumes are not purged, that well will be allowed to recharge up to 80 percent of the static water column and dewatered once more. After water levels have again recharged to 80 percent of the static water column, groundwater samples will be collected.

Purge water and decontamination water will be placed in DOT-approved 55-gallon drums. Field personnel will label the drums identifying them as well purge water and will include the date, well number, firm, and signature of the personnel. Drums containing sample purge water will be handled and disposed of in accordance with the methods discussed in Section 3.13

Monitoring wells will be sampled directly from the low-flow purge tubing. At each sampling location, all bottles designated for a particular analysis will be filled before bottles designated for the next analysis are filled. If a duplicate sample is to be collected at this location, all bottles designated for a particular analysis for both sample designations will be filled before bottles for another analysis are filled. Groundwater samples will be transferred from the tubing directly into the appropriate sample containers with preservative, if required, filtered if appropriate, and processed for shipment

to the laboratory. Vials preserved with hydrochloric acid for VOC analysis will be filled first to minimize the effect of aeration on the water sample. The pre-preserved vials will be filled directly from the bailer and capped. The vial will be inverted and checked for air bubbles to make sure there is zero headspace. If a bubble appears, the vial will be discarded and a new sample will be collected. The type, size, and number of groundwater containers, along with the preservative (if applicable), and analytical methods is discussed in Section 4.0 and listed in Table 1.

3.7 DECONTAMINATION PROCEDURES

Decontamination of sampling or field measurement equipment must be conducted consistently as to assure the quality of samples collected. All equipment that comes into contact with potentially contaminated soil and groundwater will be decontaminated. Disposable equipment intended for one-time use will not be decontaminated, but will be packaged for appropriate disposal. Decontamination will occur prior to and after each use of a piece of equipment.

All sampling devices used, including pumps, will be decontaminated by the following steps.

1. Wash with non-phosphate detergent
2. Tap water or deionized/distilled water rinse
3. Deionized/distilled water rinse

Equipment will be decontaminated in a designated area, and clean equipment will be stored on plastic sheeting in uncontaminated areas. Decontamination water will be placed in DOT-approved 55-gallon drums. Field personnel will label the drums identifying them as well purge water and will include the date, well number, firm, and signature of the personnel. Drums containing IDW and decontamination water will be handled and disposed of in accordance with the methods discussed in Section 3.13.

3.8 FIELD DOCUMENTATION

Field activities will be documented in writing and photographs taken. Personnel will complete field logs including borehole log and sample purge logs. These logs will include all the information discussed in this section. In addition, a daily field log will be kept to record the timing of field activities and the content of any pertinent project communications. Each daily field log will be dated and signed by field personnel. Photographs will be taken to record field activities to be used in reports as appropriate.

3.9 SAMPLE DOCUMENTATION AND SHIPMENT

Groundwater samples will be numbered by well number. For example, a groundwater sample collected from well MW-29 would be labeled MW-29. A groundwater sample will be labeled with the date and time the sample was collected, the sample and well number, and name for the firm and signature of the individual collecting the sample. The sample containers will be sealed, labeled, placed in a self-sealing plastic bag, and stored in a cooler with ice. A chain-of-custody seal will be placed on the lid. A chain-of-custody form will be filled out with all the appropriate sample information and it will accompany the samples to the analytical laboratory. All samples will be recorded on the field logs and/or the field daily log.

Chain-of-custody forms are used to document sample collection and shipment to laboratories for analysis. All sample shipments for analyses will be accompanied by a chain-of-custody form. Form(s) will be completed and sent with the samples to the laboratory for each shipment. If multiple coolers are sent to a single laboratory on a single day, form(s) will be completed and sent with each cooler. The chain-of-custody form will identify the contents of each shipment and maintain the custodial integrity of the samples. Generally, a sample is considered to be in someone's custody if it is either in someone's physical possession, in someone's view, locked up, or kept in a secured area that is restricted to authorized personnel. Until the samples are shipped, the custody of the samples will be the responsibility of field personnel. Field personnel will sign the chain-of-custody form in the "relinquished by" box and note date and time. The chain-of-custody form will be signed by the laboratory representative.

3.10 SITE RESTORATION

Areas of the work site that are disturbed or adversely impacted during the field investigation will be restored at the completion of field activities. The work area will be swept and sprayed down to remove soil/material, depressions in the asphalt made by the drill rig will be repaired, and spare materials will be removed.

3.11 GROUNDWATER ANALYSIS, SAMPLE CONTAINERS, PRESERVATION, AND STORAGE

Groundwater samples will be analyzed for VOC by EPA method 8260B. Additional one-time analysis will include analysis for dissolved iron and manganese, chloride, nitrate and sulfate, alkalinity, and TOC by U.S. EPA methods SW6020, E300, 310.1, and SW9060/415.1/SM5310C,

respectively. Groundwater samples to be analyzed for dissolved iron and manganese will be filtered and preserved in the laboratory prior to analysis.

The analytical laboratory will supply water sample containers. These sample containers are pre-cleaned and will not be rinsed prior to sample collection. Preservatives placed in the water sampling containers (if required) will be added by the contracted laboratory prior to sample collection. Table 1 below lists the type, number, and size of container, chemical preservative, analytical method, and holding times for soil and groundwater samples.

Table 1. Summary of Groundwater Sample Containers, Analytical Methods and Preservation

Type of Container	Size and Number of Containers	Chemical Preservation	Analytes and EPA Analytical Method	Holding Time
Clear glass	Three 40 milliliter VOA vials	HCl	VOC by SW 8260B (1) (2)	14 days
Amber glass	500 milliliter	H_2SO_4	TOC by SW 9060/415.1/ SM-5310C	7 days
Clear plastic	1 liter	None	Dissolved Iron and Manganese by SW 6020 (filtered and preserved by laboratory)	6 months
Clear plastic	1 liter	None	Chloride, nitrate and sulfate by 300.0/9056	28 days, 48 hours, 28 days, respectively
Clear plastic	1 liter (3)	None	Alkalinity by 310.1	14 days

Notes: (1) One duplicate groundwater sample will be collected for analysis of VOC.
(2) Same sample bottle that chloride, nitrate and sulfate sample is collected in.
VOA = volatile organic analysis, HCl = hydrochloric acid, NHO_3 = nitric acid.

Groundwater samples will be collected in four different types of containers based on the selected analysis. Water samples to be analyzed for VOCs will be collected in three 40-milliliter clear glass VOA vials that are pre-preserved with hydrochloric acid. Three VOA vials will be collected in case one breaks during transport. The VOA vials will be filled so that there is no headspace. Water samples to be analyzed for TOC will be collected in 500-millileter amber glass bottles that are pre-preserved with sulfuric acid. Two bottles will be collected from each monitor well just in case one breaks during transport. Groundwater samples to be analyzed for dissolved iron and manganese will be collected in one liter clear plastic bottles that contain no preservative. These samples will be filtered and preserved with nitric acid by the laboratory prior to analysis. Groundwater samples to be analyzed for chloride, nitrate, sulfate, and alkalinity will be collected in one liter clear plastic bottles that contain no preservative. Groundwater samples to be analyzed for potassium and sodium

will be collected in one liter clear plastic bottles that contain no preservative. The groundwater samples will be placed in sealed plastic bags, and stored in a cooler with ice to chill the sample to 4°C after collection.

3.12 QUALITY CONTROL

The type and number of field quality control samples collected during the proposed investigation will be limited. Quality control samples consist of field duplicates, equipment or rinsate blanks, and trip blanks. Duplicate samples collected in the field provide precision information for the entire measurement system including sample acquisition, homogeneity, handling, shipping, storage, preparation, and analysis. The identity of duplicate samples is not revealed to the analysts and laboratory personnel. Duplicate samples are typically collected at a frequency of approximately 10 percent of the total investigative samples for each matrix. Contamination of samples introduced by reuse of equipment can be detected by means of analyzing an equipment or rinsate sample. Rinsate blanks are typically collected at a frequency of approximately 10 percent of the total investigative samples. Rinsate blanks consisting of the final rinse water are typically collected for non-disposable or non-dedicated sampling equipment after decontamination has been performed. Trip blanks are used to investigate the integrity of the transport of samples to and from the laboratory. Typically, one trip blank per cooler per day is used.

Laboratory QA samples are called Laboratory Control Samples (LCS) and include method blank and matrix spikes. The LCS is based on the use of a standard, control matrix to generate precise and accurate data that are compared daily to the control limits. LCS information, in conjunction with method blank data, is used to assess daily laboratory performance. Matrix Spikes (MS) use an actual environmental sample to generate precision and accuracy that may be affected by the matrix. Typically, the MS is performed in duplicate as an MS/MSD pair. MS/MSD precision and accuracy information, supplemented with field blank results, are used to assess the effect of the matrix and field conditions on analytical data.

3.12.1 Duplicate Samples

The SOW includes collection and analysis of one duplicate groundwater sample from a groundwater monitor well during the assessment at the Al Phillips facility. This groundwater sample will be analyzed for VOC.

3.12.2 Rinsate/Equipment Blank

One equipment blanks will be collected during the proposed groundwater assessment..

3.12.3 Trip Blanks

Two trip blanks will be used and analyzed, as it is anticipated that groundwater sampling will occur over a period of 2 days. One trip blank will accompany each the sample cooler shipment.

3.13 DISPOSAL OF RESIDUAL MATERIALS

The EPA's National Contingency Plan (NCP) requires that management of IDW generated during sampling activities comply with all applicable or relevant and appropriate requirements (ARARS) to the extent practicable. The scope of work will follow the *Office of Emergency and Remedial Response (OERR) Directive 9345.3-02* (May 1991), which provides the guidance for the management of IDW. During the field activities, different types of IDW will be generated, including used personal protective equipment (PPE), disposable sampling equipment, decontamination fluids, soil cuttings from soil boreholes, and purge water for development of monitoring wells.

Used PPE and disposable equipment will be double bagged and placed in a municipal refuse dumpster. These wastes are not considered hazardous and can be sent to a municipal landfill. Any PPE and disposable equipment that is to be disposed of which can still be reused will be rendered inoperable before disposal in the refuse dumpster.

Soil cuttings and auger decontamination water will be produced during drilling and installation of the proposed monitoring wells. In addition, decontamination fluids that will be generated during the field investigation will consist of de-ionized water, residual contaminants and water with non-phosphate detergent. Purge water from development of monitoring wells will also be generated. These three types of IDW will be contained in 55-gallon DOT-approved drums and temporarily stored in an area adjacent to the Al Phillips facility. The drums will be labeled and temporarily stored prior to transport and disposal.

Analytical results from the groundwater samples will be used as a minimum basis for disposal of the wastes. PCE and non-PCE water will be disposed of at a permitted disposal facility. Waste characterization documentation and manifests (if required) will be prepared by URS for signature by Al Phillips if required.

4 SITE ASSESSMENT REPORTING

After completion of the well installations and groundwater sampling, receipt of the final laboratory data and disposal of IDW, a Site Assessment Report will be prepared and submitted to NDEP. This report will briefly summarize the results of groundwater sampling from previous reports, the field work that was performed during this investigation, and investigation results. The report will include field data, boring and well logs, tables, figures, laboratory results, and photos. Analytical results will be tabulated and compared against applicable regulatory standards. The report shall include a scaled site map depicting monitoring well locations.

5 QUALIFICATIONS AND SIGNATURES

This WP and scope of work was prepared by URS for Al Phillips for submittal to NDEP. The qualifications of the individuals involved in the preparation of this report are known to Al Phillips and NDEP.

Prepared by: Reviewed by:

Scott Ball, C.E.M.
Project Environmental Manager

for
Dennis P. Connair, C.P.G.
Senior Technical Reviewer

5.1 CERTIFIED ENVIRONMENTAL MANAGER STATEMENT

The following statement is required by NDEP for Environmental Managers who practice in Nevada:

> *I, Scott Ball, hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and to the best of my knowledge comply with all applicable federal, state and local statutes, regulations and ordinances.*

Scott Ball
Certified Environmental Manager No. 1316
(Expires October 15, 2005)

6 REFERENCES

American Society for Testing and Materials International, 2002. Standard Practice for Low-Flow Purging and Sampling for Wells and Devices Used for Ground-Water Quality Investigations, Designation: D 6771-02.

Converse Consultants, 2000. Offsite Investigation, Maryland Square Shopping Center, Las Vegas, NV dated November 28, 2000.

-----, 2001. A through K Data Research Report, dated August 22, 2001.

-----, 2002a. Work Plan – Additional Site Investigation, dated January 11, 2002.

-----, 2002b. Additional Soil and Groundwater Investigation, dated November 13, 2002.

-----, 2003a. Additional Soil and Groundwater Investigation, dated May 16, 2003.

-----, 2003b. Preliminary Corrective Action Plan (CAP), dated June 27, 2003.

-----, 2003c. Work Plan – Additional Site Activities, dated September 12, 2003.

-----, 2003d. Groundwater Monitoring Report – 3rd Quarter 2003, dated October 31, 2003.

-----, 2004. Well Installation/Slug Testing/Groundwater Monitoring Report – 4th Quarter 2003 and 1st Quarter 2004, dated March 2004.

NDEP, 2007. Letter titled: Frequency of Groundwater Monitoring, Maryland Square Site, 3661 South Maryland Parkway, Las Vegas, NV, Facility ID: H-000086. March 1, 2007.

SECOR International Incorporated, 2004. Preliminary Well Assessment, Monitoring Well MW-11, West of Dillard's Boulevard Mall Property, Las Vegas, NV, dated March 29, 2004.

URS, 2004. Revised Work Plan, Proposed Subsurface Investigation, Former Al Phillips the Cleaner Site, Maryland Square Shopping Center, Las Vegas, NV, dated September 10, 2004.

URS, 2005a. Subsurface Investigation, Former Al Phillips the Cleaner Site, Maryland Square Shopping Center, Las Vegas, NV, dated July 11, 2005.

URS, 2005b. Quarterly Groundwater Sampling, Former Al Phillips the Cleaner Site, Maryland Square Shopping Center, Las Vegas, NV, dated September 26, 2005.

URS, 2005c. Proposed Remedial Pilot Study, Former Al Phillips the Cleaner Site, Maryland Square Shopping Center, Las Vegas, NV, dated December 27, 2005.

URS, 2006a. Quarterly Groundwater Sampling, June 2006, Al Phillips the Cleaner, Maryland Square Shopping Center, 3661 South Maryland Parkway, Las Vegas, NV. July 31, 2006.

URS, 2006b. Source Removal Corrective Action Plan, Former Al Phillips Facility, Al Phillips the Cleaner, Maryland Square Shopping Center, 3661 South Maryland Parkway, Las Vegas, NV. November 13, 2006.

URS, 2006c. Quarterly Groundwater Sampling, 3rd Quarter 2006, Al Phillips the Cleaner, Maryland Square Shopping Center, 3661 South Maryland Parkway, Las Vegas, NV. November 14, 2006.

URS, 2007a. Quarterly Groundwater Sampling, 4th Quarter 2006, Al Phillips the Cleaner, Maryland Square Shopping Center, 3661 South Maryland Parkway, Las Vegas, NV. January 5, 2007.

URS, 2007b. Source Area Soil Assessment, Former Al Phillips Facility, Al Phillips the Cleaner, Maryland Square Shopping Center, 3661 South Maryland Parkway, Las Vegas, NV. February 23, 2007.

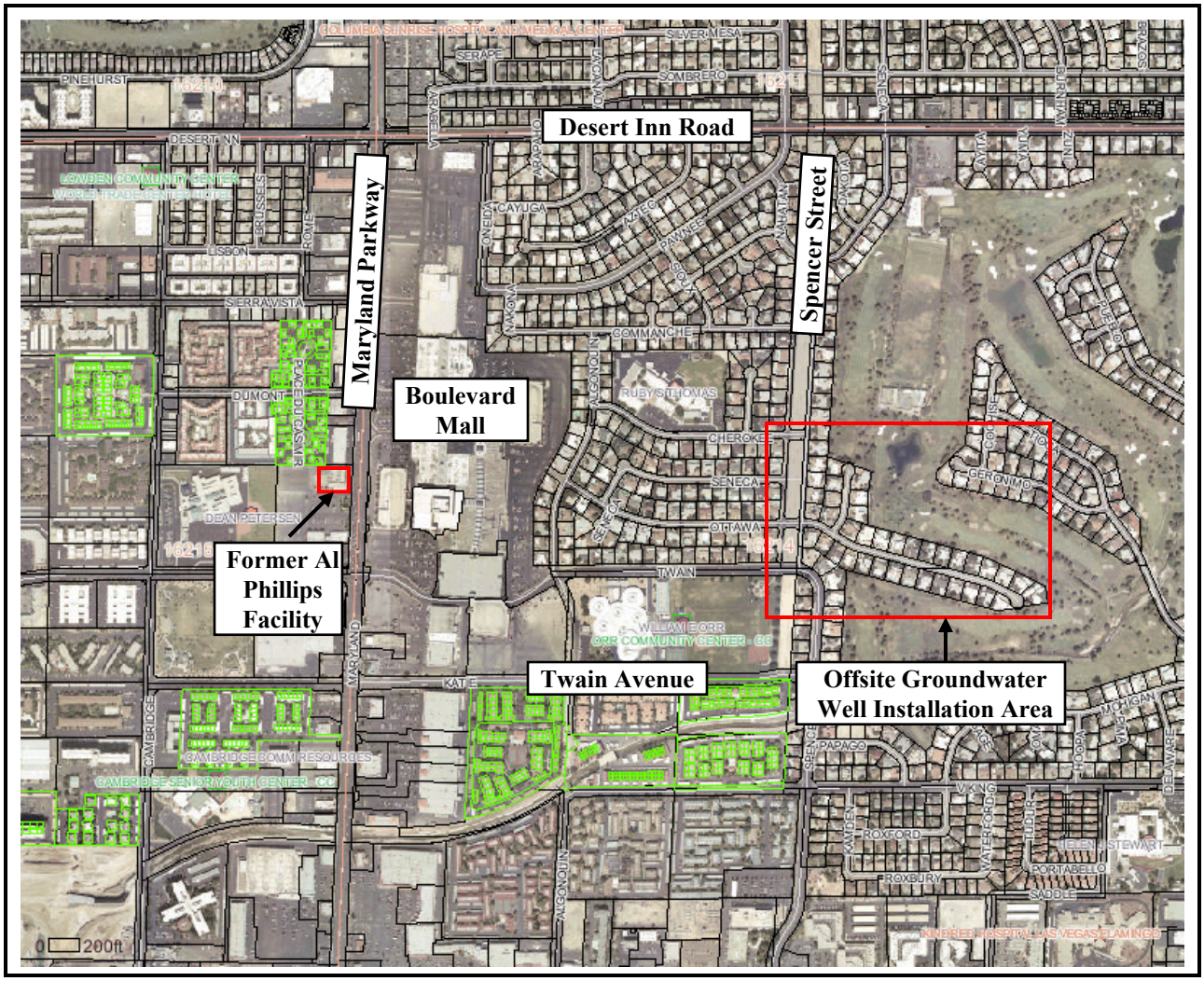
URS, 2007c. Quarterly Groundwater Sampling, 1st Quarter 2007, Al Phillips the Cleaner, Maryland Square Shopping Center, 3661 South Maryland Parkway, Las Vegas, NV. April 2, 2007.

URS, 2007d. Quarterly Groundwater Sampling, 2nd Quarter 2007, Al Phillips the Cleaner, Maryland Square Shopping Center, 3661 South Maryland Parkway, Las Vegas, NV. July 25, 2007.

Wiedemeier, T. H., et al. 1998. Technical protocol for evaluating natural attenuation of chlorinated solvents in ground water. U.S. Environmental Protection Agency, Office of Research and Development, Publication U.S. EPA/600/R-98/128.

7 FIGURES

Figure 1 Site Location Map
Figure 2 Site Plan
Figure 3 Groundwater Elevation Contours for Monitoring Wells



Source: Clark County Assessors Web Site
Scale: 200 feet

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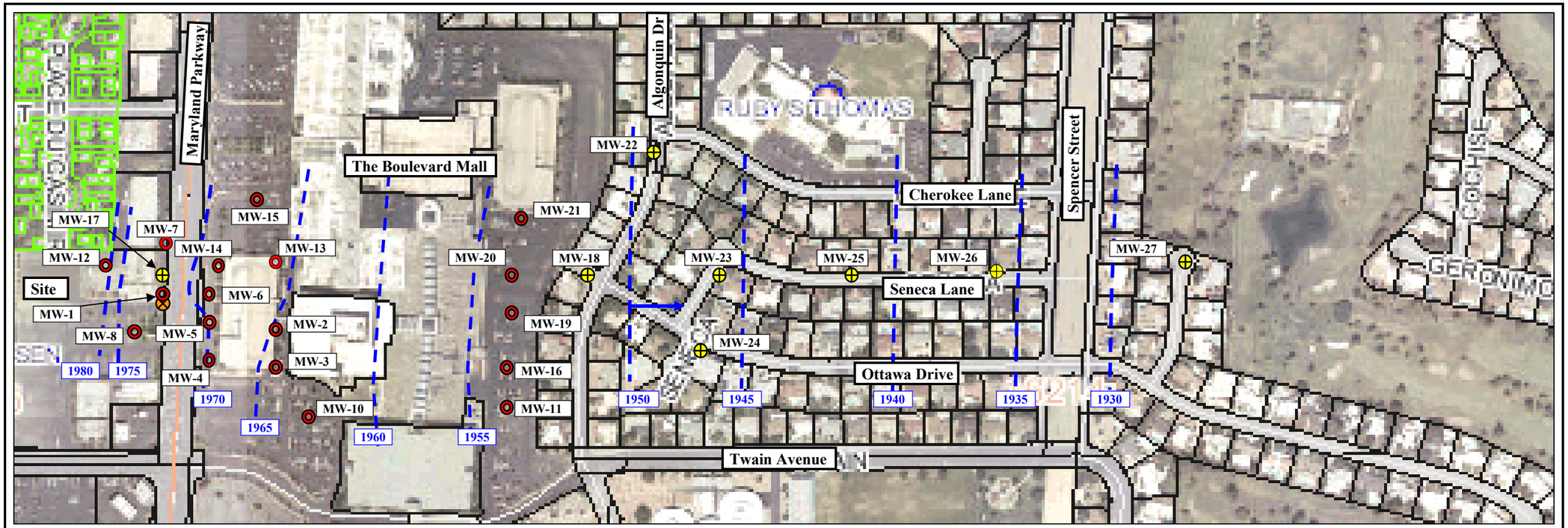
SITE LOCATION MAP

Al Phillips The Cleaner
Groundwater Monitoring Well Installation Work Plan
Maryland Square Shopping Center
3661 South Maryland Parkway
Las Vegas, Nevada

September 2007
Job No. 26698724

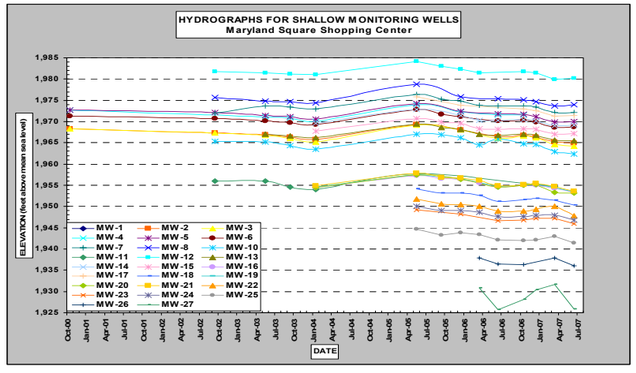
MS Well Installation 9-24-07 Fig 1.ppt FIGURE 1



Groundwater Elevations In Monitoring Wells (2nd Quarter 2007)

Well	Elevation	Well	Elevation	Well	Elevation
MW-1	1972.23	MW-12	1980.19	MW-22	1947.85
MW-2	1964.96	MW-13	1965.54	MW-23	1945.92
MW-3	1964.20	MW-14	1969.09	MW-24	1946.80
MW-4	NM	MW-15	1967.12	MW-25	1941.43
MW-5	1970.06	MW-16	1953.35	MW-26	1935.98
MW-6	1968.73	MW-17	1971.44	MW-27	1925.80
MW-7	1972.17	MW-18	1950.34	Intermediate Well	
MW-8	1973.92	MW-19	1953.42	Well	Elevation
MW-10	1962.41	MW-20	1953.23	MW-9	1972.31
MW-11	NM	MW-21	1953.61		

Elevations are feet above means sea level. NM = Not Measured.



Source: Clark County Assessors Web Site
Scale: 0 Feet — 200 Feet

Legend:

- Approximate Location of Shallow Monitoring Well Installed by URS.
- Approximate Location of Intermediate Monitoring Well Installed by URS.
- Approximate Location of Monitoring Well Installed by Converse.
- Groundwater Elevation Contour Line.
- Approximate Direction of Groundwater Flow.

URS

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GROUNDWATER ELEVATION CONTOURS FOR SHALLOW WELLS

Al Phillips The Cleaner
Groundwater Monitoring Well Installation Work Plan
Maryland Square Shopping Center
3661 South Maryland Parkway
Las Vegas, Nevada

September 2007
Job No. 26698724

MS Well Installation 9-24-07 Fig2.ppt

FIGURE 2

Source: Clark County Assessors Web Site
Scale: 0Feet 500 Feet

Legend:

- Approximate Location of Proposed Monitoring Wells
- Approximate Location of Several Existing Monitoring Wells
- MW-27

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URS

PROPOSED MONITORING WELL LOCATIONS

Al Phillips The Cleaner
Groundwater Monitoring Well Installation Work Plan
Maryland Square Shopping Center
3661 South Maryland Parkway
Las Vegas, Nevada

September 2007
Job No. 26698724

MS Well Installation 9-24-2007 Fig3.ppt

FIGURE 3